REMOTE STORAGE

Fort Wayne Electric Works

(INCORPORATED.)

Manufacturers of the

"WOOD" SYSTEMS.

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BULLETIN No. 1012. AUGUST 23, 1900.

TYPE K INDUCTION INTEGRATING WATTMETER.

The extensive use of the induction wattmeter to register the energy of alternating current circuits has created a demand for a meter that will render an accurate record of the true energy of the circuit regardless of the power factor, that is of

Type K Meter.

permanent and reliable calibration, convenient to handle, install and repair, and cover the broad range of adaptability met in meter service. In the accomplishment of this end the Fort Wayne Electric Works has developed the type K integrating wattmeter.

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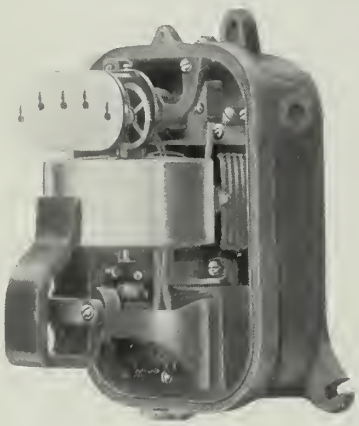
Electric Works,
Fort Wayne, Ind.

In the design of this meter we have been governed by our many years' experience and careful study of the demand for a high grade meter that will fulfill all the conditions to which an instrument of this kind is subjected. We take pleasure, therefore, in placing on the market a meter that contains many new and valuable features that will be of interest to central station managers and meter attendants.



Type K Meter.

On account of the numerous requests for a small and neat instrument we have adopted a compact, smooth and well rounded design, avoiding all awkward projections and corners. All the parts have been designed and located in a manner to facilitate to the greatest possible degree the attending and repairing of the meter. Every part is standard and interchangeable, thereby reducing the cost of repairs to a minimum.

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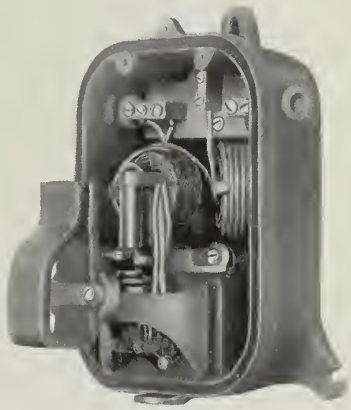
To facilitate in handling and installing, the weight and space occupied have been reduced to a minimum. The meter weighs but thirteen pounds and can be installed in a space 6¾ in. x 8¾ in. It is provided with three points of support, making it easy to level. To further assist in installing and removing from the circuit, the lower right-hand lug is slotted or hook-shaped, thus permitting the meter to be removed from the circuit by simply removing one screw. The meter is con-



Type K Meter—Cover and Rotating Parts Removed.

nected in circuit in a most convenient manner, the connections being made at the sides near the top, but one side of the main transformer circuit entering it.

The cast metal cover is placed from the front and sealed at the top. The cover enters a deep groove in the cast metal frame, which, being filled with felt, makes it absolutely dust and insect proof. The cover contains but one window, through which the reading of the meter is taken and the rotating parts seen.

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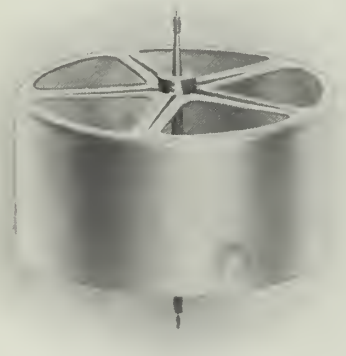
The dial is large and clear, with the circles arranged in as nearly a straight line as possible to avoid confusion in reading. We have, after considerable effort, succeeded in obtaining a dull finish porcelain dial, which possesses all the advantages in clearness and ease of cleaning that have led to such general use of the porcelain dial. The dull finish greatly facilitates in reading and prevents the making of incorrect records, as it entirely eliminates the reflection of light. In

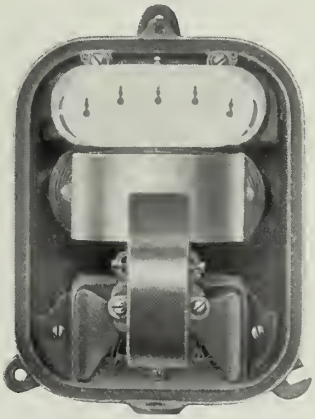


Rotating Parts.

further perfecting the registering mechanism we have abandoned the use of constants, making all primary and secondary meters direct reading.

The rotating parts consist of a shaft and aluminum cup the top of which is stamped out, leaving five well ribbed arms to support the frame. A cup thus formed insures the greatest degree of rigidity with the least possible weight. All

shafts are standard, therefore interchangeable, and are made of the best Stubb steel and shouldered to receive the aluminum cup. The rotating parts of the meter are supported on a carefully selected sapphire jewel which is mounted on a spring, thus preventing the jewel from becoming injured should the meter be installed at a place where there is considerable vibration. As the jewel post is shouldered



Type K Meter—Front View.

against an adjusted collar the attendant is enabled to readily change the jewel without interfering with any of the adjustments of the meter.

A feature that is entirely new in meter design and one that is of interest and value to central station managers is that by the removal of the registering mechanism all the rotating parts of the meter can be removed, which not only affords easy access to the construction of the meter but permits the removing and replacing of the shaft.

As the permanent calibration of the meter depends so largely upon the permanent magnet used for the drag, it is essential that the greatest care should be taken in its preparation. We have adopted the most scientific and reliable methods to obtain good results, and every magnet used receives several months of careful attention before entering the regular product. This insures reliable results, which are of such importance in meter service.

Type K Meter—Seperate Sealed Pattern.

The meter is equipped with a starting coil in connection with a screw adjustment to overcome static friction, by means of which a high degree of accuracy is obtained on light loads. A very important point in connection with this adjustment is that after it is set to register accurately on light loads an increase in the voltage of the circuit will not cause the meter to creep.

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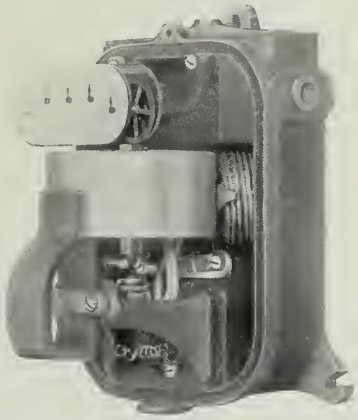
It is frequently desirable to change an induction wattmeter from one circuit to another having a different rate of alternation, viz: changing from high frequency (125, 133 or 140 cycles per second) to low frequency (60 cycles per second) or vice versa. We have so designed this meter that it can be readily changed to operate on any frequency. This is accomplished by simply soldering or unsolder-



Type K Meter—Seperate Sealed Pattern.

ing one connection. We feel that the introduction of this new feature into the induction wattmeter construction will be received with great favor by central station managers, as it enables the meter attendant to change the calibration of meters from one rate of alternation to another, without entailing any expense of changing parts or returning the meters to the manufacturer to have the change effected.

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